TRI-AGENCY FORECAST DISCUSSION FOR JULY 28, 2010

Tropical Areas of Interest Discussion: Created 1800 UTC July 28, 2010

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Summary: The Central and West Atlantic basin continues to lack persistent, widespread convective activity, and there is no indication of an immediate change in the next 24-48 hours. In the East Atlantic, deep convection initiated overnight in an east-west elongated trough south of Cape Verde and west of the Guinea Highlands (along 10N). Three waves have been identified in the basin: PGI-19L (centered at 60W), PGI-20L (centered at 40W), and PGI-21L (centered near 7W over west Africa) (**1**). In general, the subtropical ridge, combined with a 1024mb high in the North Atlantic (centered near 40W/30N) has brought widespread dry, subsiding air into the basin. The most substantial dust is coincident with westward moving PGI-19L. PGI-21L will emerge from Africa in the next 24 hours.

Forecast for 1800 UTC 7/28/2010:

There are currently no NHC identified areas of interest across the Atlantic basin. The tri-agency domain continues to be dominated by dry air due to some combination of the SAL (in the central Atlantic) and large-scale subsidence (**2**), which has inhibited deep convection (**3**).

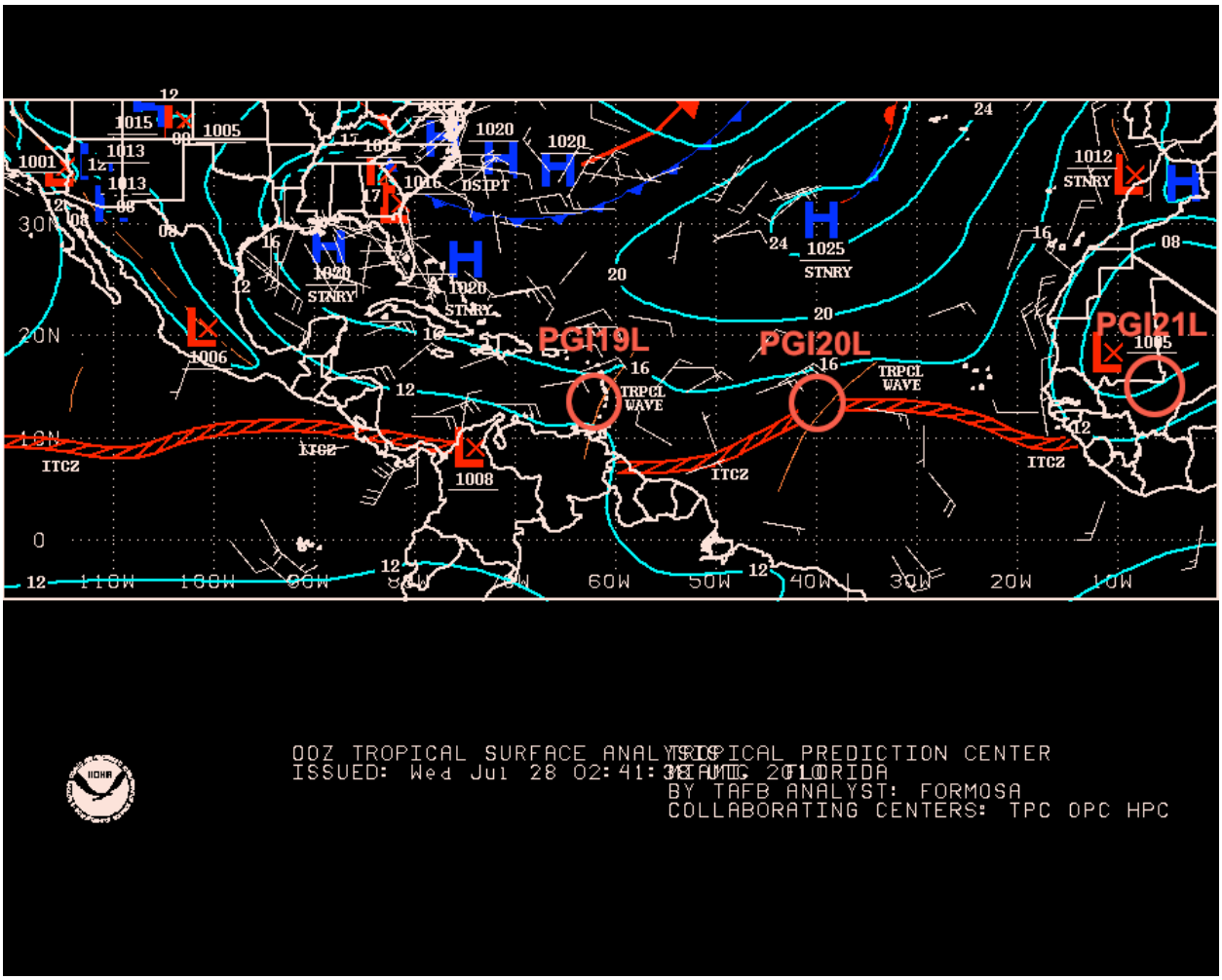
A trough over the coast of Mexico, along the Bay of Campeche, led to widespread convection over the coast of Mexico; however, this area is too far west to consider microphysical investigations.

PGI-19L (centered at 60W) is a very weak wave, nearly void of deep convective activity near the disorganized low-level center, and is influenced by a high magnitude (30-40 kt) of west/southwesterly wind shear (**4**). No pouch tracking has been done for any model. This weak wave will continue to track westward and no genesis is anticipated.

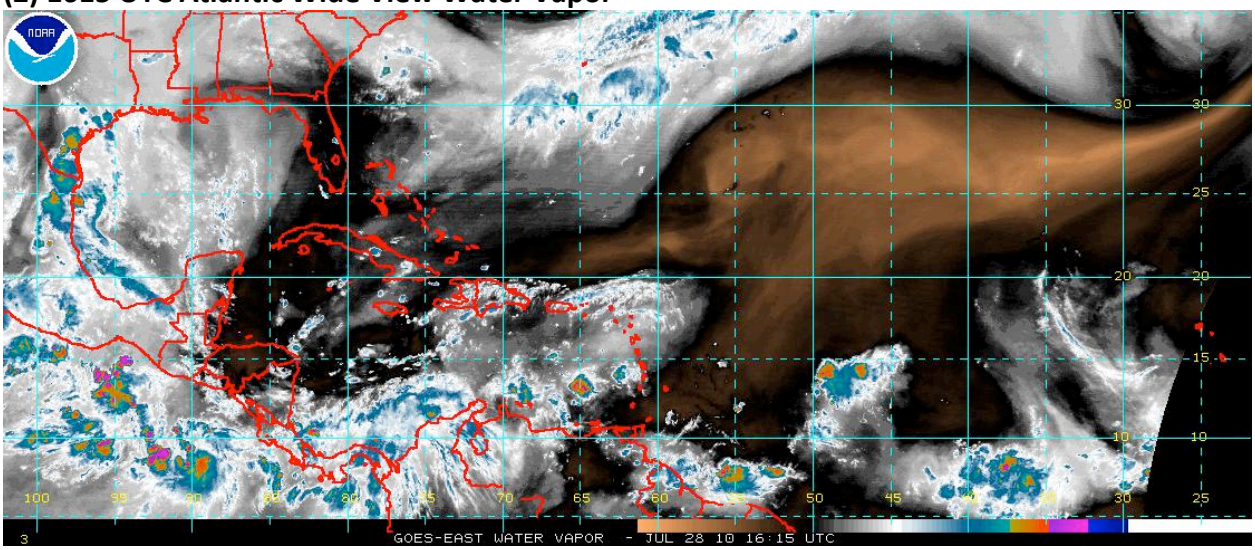
PGI-20L (centered 40W) has a broad area of low-level vorticity, and experienced a small area of deep convective initiation overnight to the west of the center (between 45 and 50W). Interestingly, the convection seems to be co-located with dust (**5**). Although the TPW (**6**) would seem to indicate a moist air mass, most of the moisture is at low-levels, while the dry air at mid-to-upper levels is inhibiting convective initiation near the center. In contrast to yesterday (does not persist), the ECMWF forecast persists the pouch on a west/northwestward track with little-to-no intensification (**8**). The GFS has no pouch tracking, while in total contrast, NOGAPS forecasts west then northwestward movement with intensification at 72 hours (**9**). In general, no intensification is expected, however, the wave will be monitored as it enters the tri-agency domain for possible dust/convection missions and for any genesis potential near the Lesser Antilles. Here are the consensus forecast locations: 36 hrs (7/29 1200 UTC): 53W/13N, 60 hrs (7/30 1200 UTC): 58W/14N, 84 hrs (7/31 1200 UTC): 62W/16N.

PGI-21L (centered near 7W over west Africa) has a disorganized low-level center with little mid-level signature. The pouch is relative dry with some dissipating MCS activity (**10**). Not surprisingly, the most organized area of convection is associated with a low-to-mid level elongated east-west trough at 10N off the coast of the West Africa. There is some evidence of rotation in the IR imagery and TPW is high in this area (**6**). Aqua/Terra AOT (**5**) and SAL analysis (**7**) indicates the start of a SAL outbreak on the coast, centered near 17N, which is a sign that the PGI-21L may emerge off the coast of Africa tomorrow. Initial model consensus (ECMWF – **11**) is for a dry low-level pouch to emerge from the northern wave track at 18-20N, and move southwestward towards a lower-latitude (15N in 120 hrs), perhaps merging with a mid-level center from the southern wave track. Although potential missions are more than 5 days away, this wave will be closely monitored. The 0600 UTC GFS was hinting at an intensifying vorticity maximum emerging out of the ITCZ near 25 W (with a closed low at the surface); however, the 1200 UTC run does not replicate that forecasted vorticity maximum.

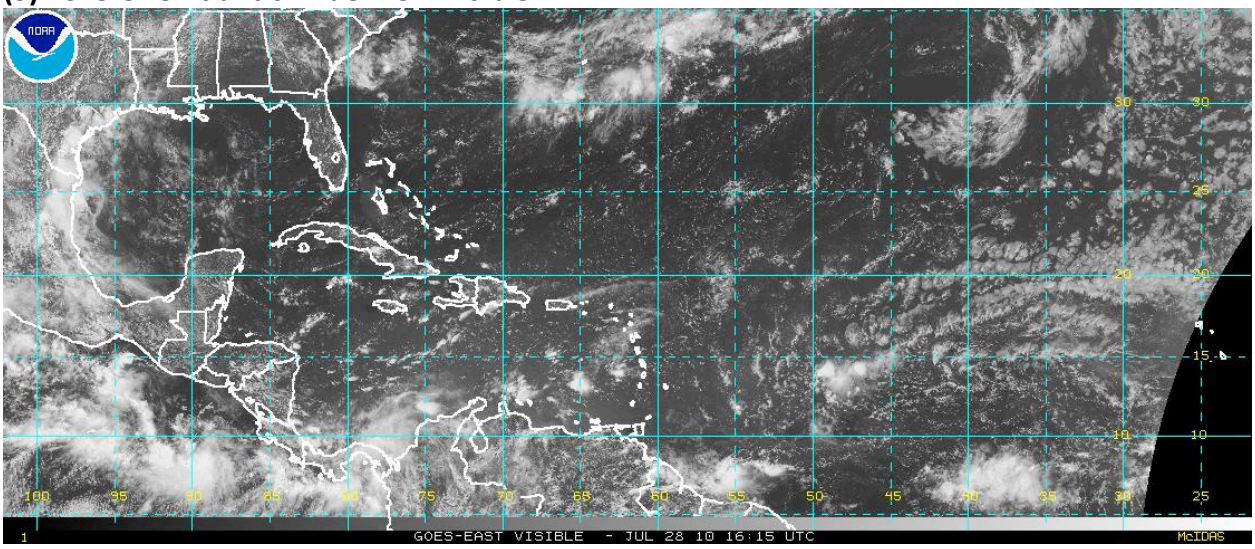
(1) 0000 UTC TPC Tropical Surface Analysis and Pouch Locations



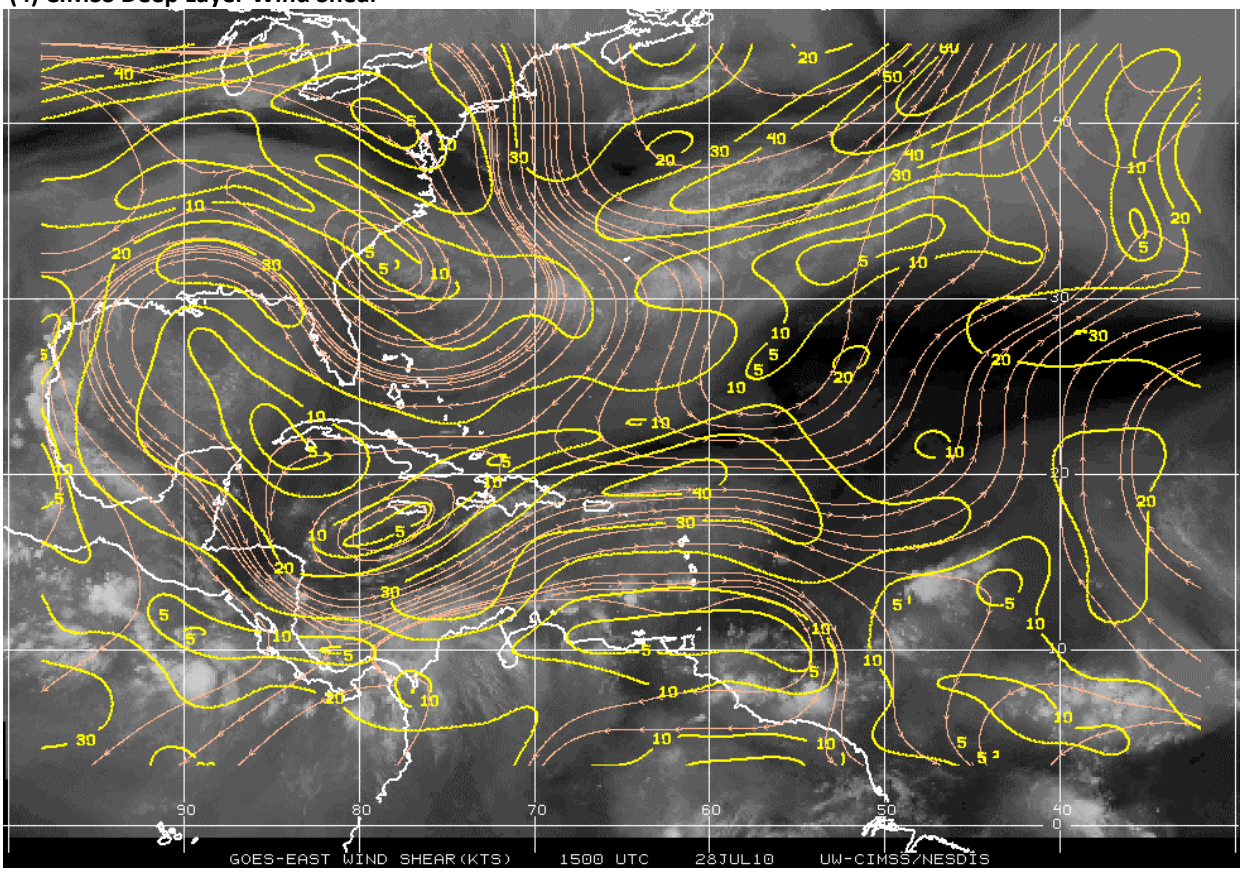
(2) 1615 UTC Atlantic Wide View Water Vapor



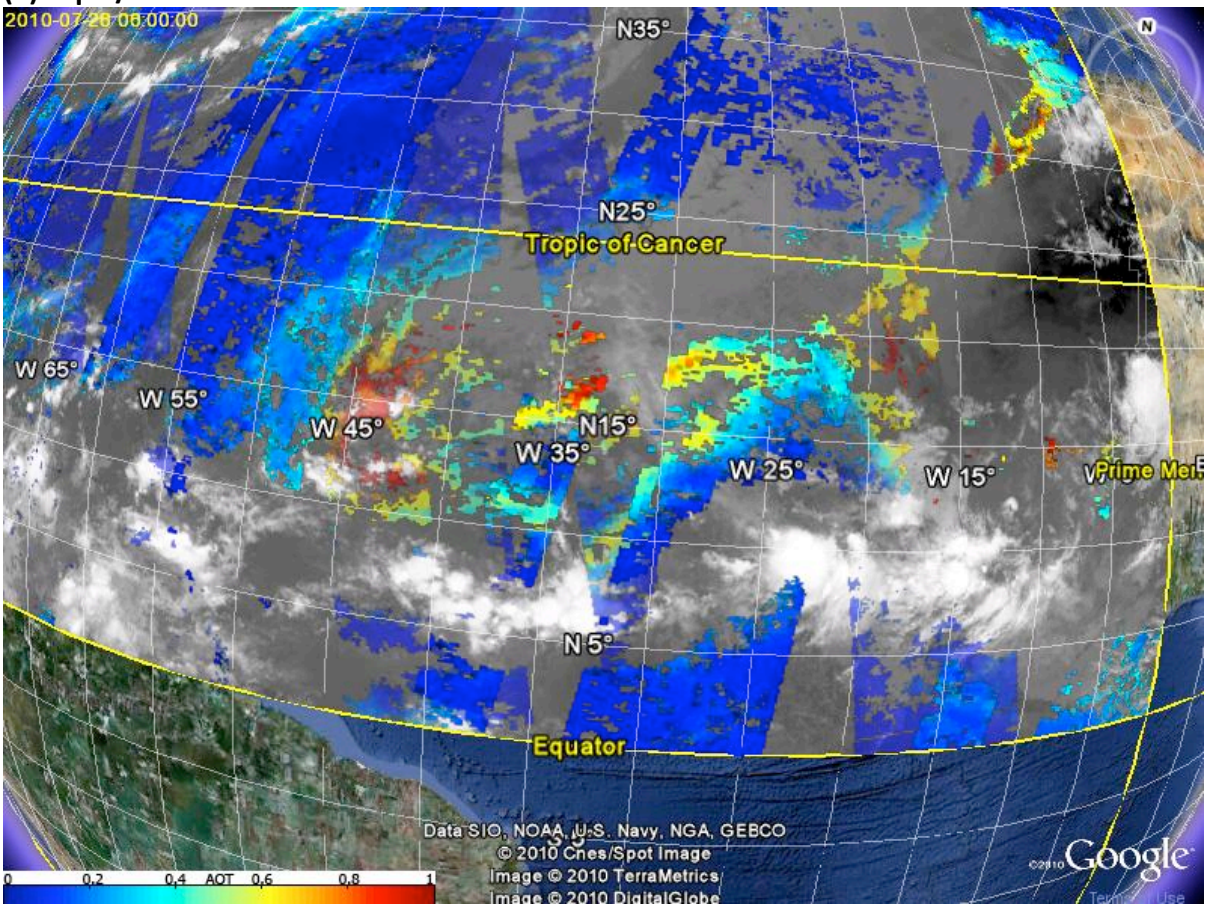
(3) 1615 UTC Atlantic Wide View Visible



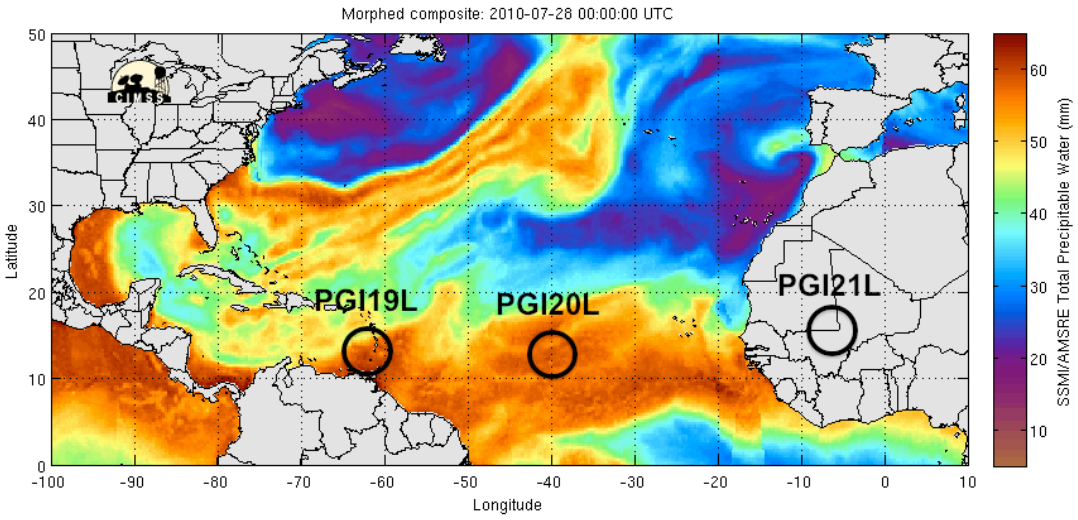
(4) CIMSS Deep Layer Wind Shear



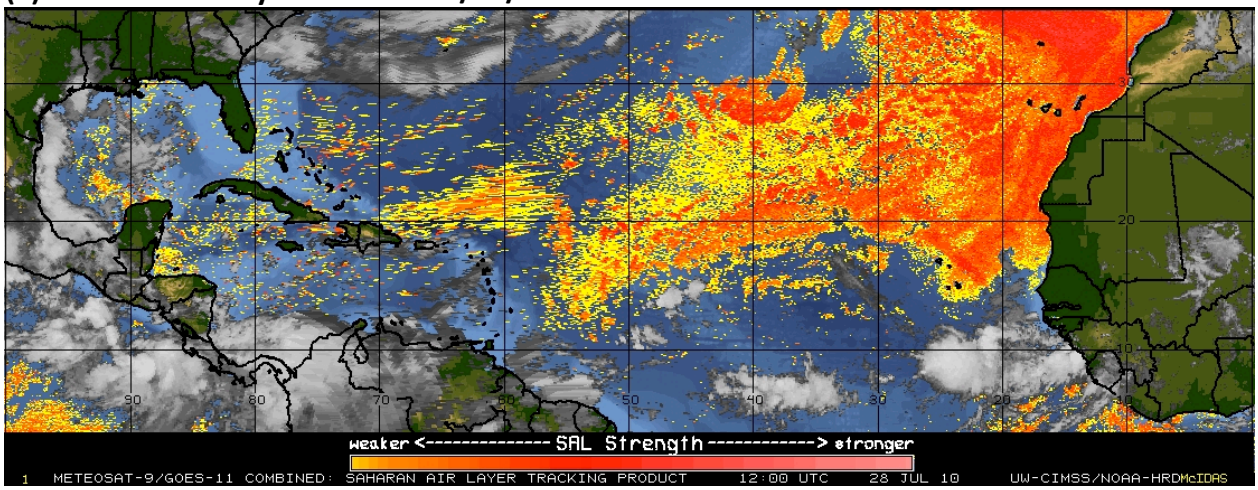
(5) Aqua/Terra AOT + GOES IR



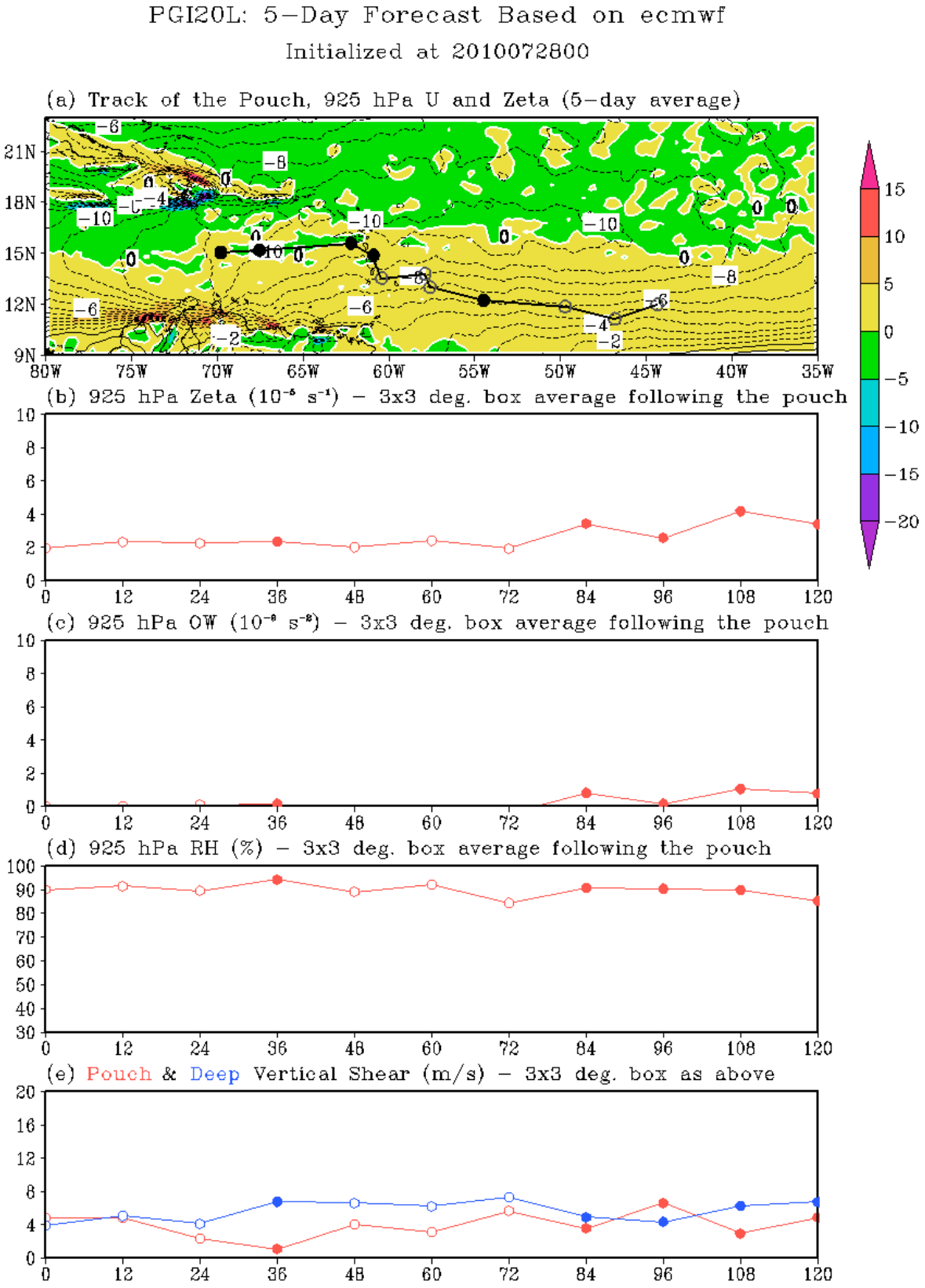
(6) Morphed Composite TPW 0000 UTC 7/28/10



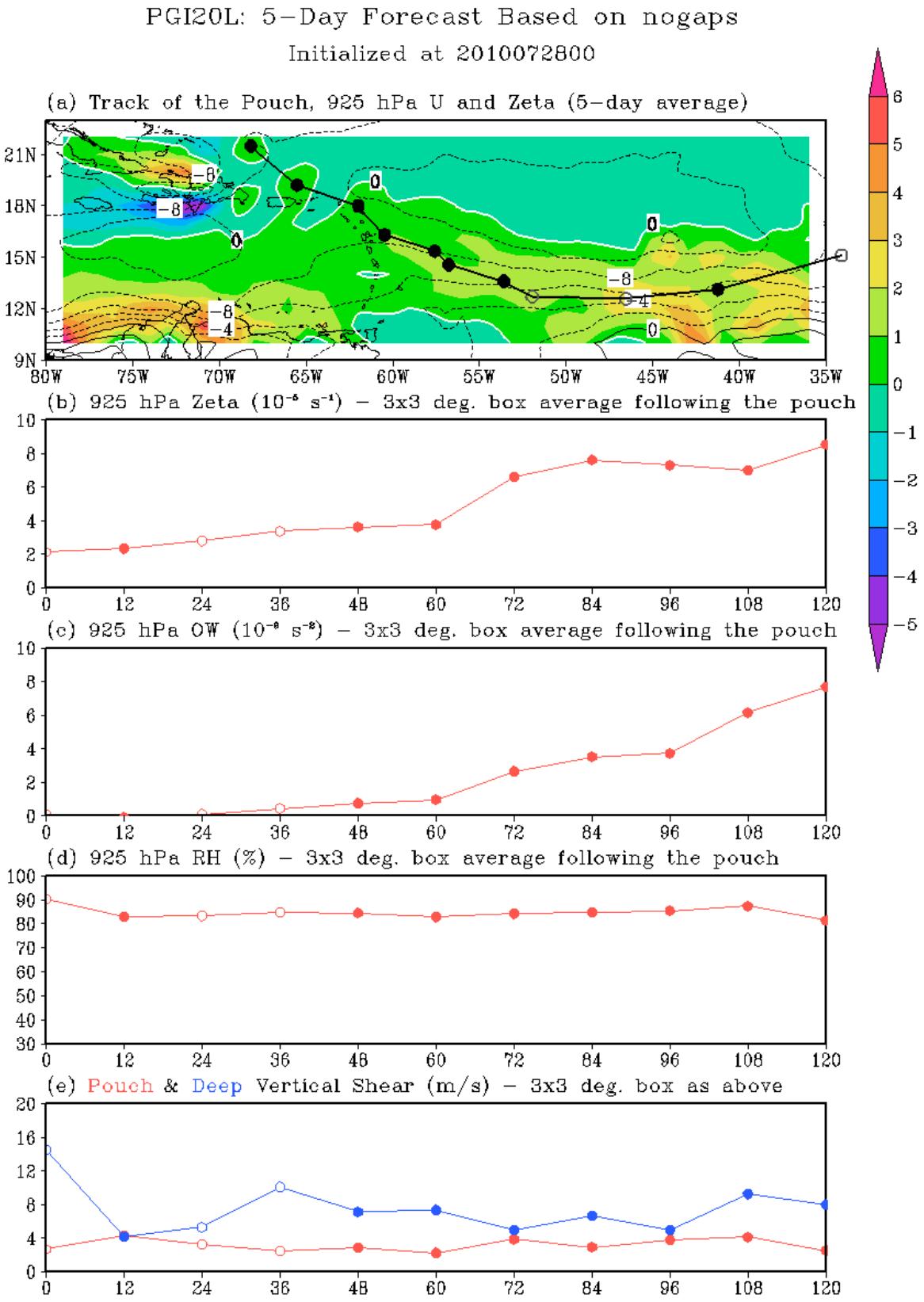
(7) CIMSS SAL Analysis 1200 UTC 7/28/10



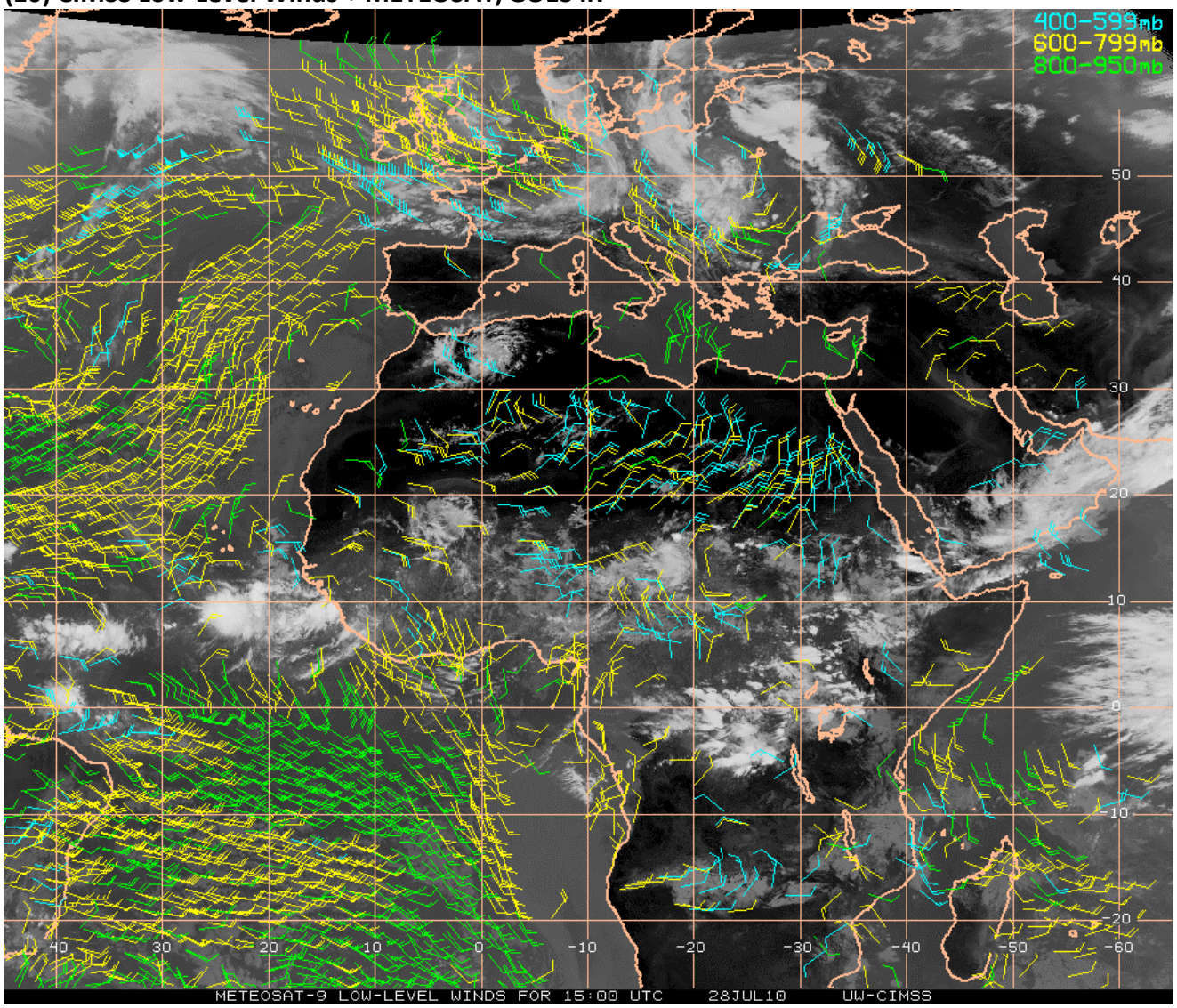
(8) 0000 UTC 7/28/10 ECMWF Pouch Forecast (PGI-20L)



(9) 0000 UTC 7/28/10 NOGAPS Pouch Forecast (PGI-20L)



(10) CIMSS Low-Level Winds + METEOSAT/GOES IR



(11) 0000 UTC 7/28/10 ECMWF Pouch Forecast (PGI-21L)